DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: NH000-0073-03(242) Cobb Cherokee **OFFICE:** Engineering Services
NH000-0575-01(028) CSNHS-0008-00(256)
NHS00-0001-00(919) CSNHS-0006-00(417)(418)(419)
P.I. Nos.: 714130/713640/0008256/0001919/0006417/0006418/0006419
I-75 and I-575 HOV Lanes **DATE:** May 21, 2010

FROM: Ronald E. Wishon, State Project Review Engineer REW

TO: Darryl D. VanMeter, PE, State Innovative Program Delivery Engineer
Attn.: John Hancock, PE

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above projects was held December 7-11, 2009. Responses were received on March 17, 2010. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project. While some alternatives are recommended not to be implemented, the VE process will be continued and expanded through the P3 procurement process. It is anticipated that the short listed P3 proposers will have the opportunity to offer additional VE solutions as part of the Alternative Technical Concept (ATC) portion of the procurement.

FHWA reviewed the initial responses and requested that the Project Manager reconsider recommendation G-6. Based on traffic forecasts and further review it was determined that G-6 could be implemented. This satisfactorily addressed FHWA's concerns.

ALT #	Description	Potential Savings/LCC	Implement	Comments
B-2	Take the managed lanes under Gresham Road and eliminate part of Bridge 19	$17,235,000	Yes	The total present worth life cycle cost savings appear to justify implementation of this recommendation. Since this is a P3 project, the proposers will weigh the risks and potential offsetting costs of assuming operations and maintenance of the existing bridge that will be impacted by this alternative against the original cost without those risks.

B-3	Increase the span lengths for Bridge 13 and use spliced, precast, prestressed concrete girders to reduce the number of intermediate bents	$2,673,000	Yes	The proposers will verify if the total savings outweigh the risk.
B-5	Straighten the managed lanes alignment at South Marietta Parkway and place them at-grade to go under the South Marietta Parkway bridge; use braided ramp bridges	$6,679,000	Yes	Cost savings and conventional construction techniques appear to justify this alternative. The P3 proposers will consider the risk and cost of maintaining and operating the South Marietta Parkway bridge while constructing the mainline underneath.
B-6	Run the managed lanes under Windy Hill Parkway and delete Bridge 4	$35,283,000	Yes	There will be similar risk exposure as with B-2 and B-5, but the total savings should far outweigh the risk.
B-13	Eliminate Bridge 16 on I-75 by mitigating wetlands and extending box culverts	$3,906,000	No	The environmental document, including the special studies and impacts, is currently underway. Acceptance of this recommendation could cause potential impacts and delays to the environmental document which would subsequently delay the project procurement and financial close.
B-15	Use MSE abutments in lieu of end spans at the Hickory Grove Road bridges over I-75	$2,165,000	No	The area that would otherwise be underneath the end span will more readily accommodate future widening of I-75.

B-17	Use a larger radius for Bridge 7 over I-285 and shorten the bridge	$2,148,000	Yes	A revised, longer radius alignment is better from an operational standpoint, and a shorter overall length of bridge justifies consideration of this alternative by P3 proposers. If non-conventional construction is required to construct longer, skewed spans across I-285 and I-285 WB ramp, proposers may determine that the original design is more cost effective.
B-18	Shorten Bridge 2B over I-285 by moving the curve to the north	$804,000	Yes	Based on the generally congested nature of the alignment footprint, some tweaking of the original design alignment may be justified by the P3 proposer.
W-1	At Big Shanty Road and I-75, move the entry and exit ramps to the reversible lane to the center of the median and delete the retaining wall	$5,109,000	Yes	This will be done.
W-2	Adjust the reversible lane profile between South Marietta Parkway and Banberry Road to reduce the extent of the retaining walls	$2,298.000	Yes	This will be done.
W-3	Adjust the reversible lane profile from Sta. 406+70 to Sta. 418+55 to reduce MSE walls	$3,276,000	Yes	This will be done.
575-1	Move slip ramp (HOT Lane) at Hawkins Store Road to the north and off of the bridge over Hawkins Store Road	$567,000	No	The environmental document is currently underway. The locations and types of access points (slip ramps or interchanges) that will be provided have not yet been finalized. These access locations, including traffic impacts, will be studied as part of the SDEIS and FEIS process.

575-2	End the project just south of the Little River Bridge by shifting the slip ramp to the south	$3,642,000	No	The environmental document is currently underway. The locations and types of access points (slip ramps or interchanges) that will be provided have not yet been finalized. These access locations, including traffic impacts, will be studied as part of the Supplemental Draft Environmental Impact Study (SDEIS) and Final Environmental Impact Study (FEIS) process.
P-1	Where there are two managed lanes on I-75, use an 11 ft wide lane adjacent to the 10 ft wide shoulder	$9,190,000	No	The project is anticipated to be a P3 which will involve priced managed lanes, essentially a premium facility. Retaining the currently proposed 12 ft lanes would enhance driver comfort, improve incident management and theoretically increase facility capacity. Since revenue generation is critical in a P3 project, additional capacity, improved incident management and increased driver comfort would result in additional patronage. Similarly, 12 ft lanes would be more likely to minimize cross-lane reads with the electronic toll collection systems.
P-3	Underneath the concrete pavement, use 3 in of soil cement base in lieu of asphaltic concrete base for the entire length of the project	$8,567,000	No	This is a P3 project and it will include performance specifications. Lifecycle costs will be an important consideration in the overall project and long term operations and maintenance of the facility, as the concessionaire will be responsible for the operation and maintenance of the facility over a 50-year period. As such, the pavement design could vary depending on the selected team's proposal resulting from the performance specs and lifecycle considerations.

P-4	Underneath the concrete pavement, delete the 3 in asphaltic concrete base for the entire length of the project	$10,192,000	No	See response to P-3.
G-2	Where possible provide a 4 ft wide shoulder and a 12 ft wide lane in lieu of two 10 ft wide shoulders	Design Suggestion	No	The standard shoulders on this project are 2 ft and 10 ft. Shoulder widths were increased in some areas due to sight distance.
G-3	From the merge point of Ramp C and the two managed lanes on Bridge 2A to where Ramp H merges in, provide a three lane section that reduces to two lanes	Design Suggestion	No	Implementing this recommendation would result in an increase in the project cost. Implementing the change could increase the operational complexity by introducing more complex weaving.
G-4	Cross managed lanes to east side of I-75 beginning south of North Marietta Parkway	$23,000,000	No	Based on public input, it is recommended that the east side of I-75 be preserved for future expansion or transit. The cost of realigning the bridge due to this potential future project would not offset the cost savings projected by the VE Team. Implementation of this recommendation could delay approval of the environmental document.
G-5	Cross managed lanes to east side of I-75 beginning south of North Marietta Parkway and add access lanes at Bells Ferry Road	$22,000,000	No	Based on public input, it is recommended that the east side of I-75 be preserved for future expansion or transit. Implementation of this recommendation could delay approval of the environmental document.
G-6	From the merge point of Ramp C and the two managed lanes on Bridge 2A to where Ramp H merges in, provide a two lane section that reduces to one lane and then expands to two lanes	$6,604,000	Yes	The original responses (attached) indicate this recommendation will not be implemented; however, at the request of FHWA, the Project Manager has reviewed the recommendation. The Project Manager has determined no negative traffic impacts would result from the implementation of this recommendation.

Approved: _____ **Date:** 6/1/10
Gerald M. Ross, PE, Chief Engineer

Approved: _____ **Date:** 6/17/10
Rodney Barry, PE, FHWA Division Administrator

REW/LLM
Attachments
c: R. Wayne Fedora/Aric Mance/Mindy Roberson/Chetna Dixon - FHWA
Ben Buchan
Darryl Van Meter/Mike Dover/John Hancock
Paul Liles/Bill Duvall/Bill Ingalsbe
Keisha Jackson
Patrick Bowers/Kenny Beckworth
Mickey McGee
Ken Werho
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE NH000-0073-03(242); NH000-0575-01(028); **OFFICE** Innovative Program Delivery
CSNHS-0008-00(256), NHS00-0001-00(919)
CSNHS-0006-00(417)(418)(419)
P.I. Nos.: 714130, 0008256, 713640, 0001919; 0006417, 0006418, 0006419

I-75 & I-575 HOV Lanes, Cobb and Cherokee **DATE** March 16, 2010

FROM Darryl D. VanMeter, P.E., State Innovative Program Delivery Engineer

TO Ronald E. Wishon, State Project Review Engineer

SUBJECT Value Engineering Final Report Response

Please find below the Reponses to the Value Engineering Final Report. While some are recommended not to be implemented, the VE process will be continued and expanded through the project P3 procurement process. It is anticipated that short listed P3 proposers will have the opportunity to offer additional VE solutions as part of the Alternative Technical Concept (ATC) portion of the procurement.

VE Recommendation B-2: ***Take the managed lanes under Gresham Road and eliminate part of Bridge No. 19.***

Response: Implement

Total PW LCC savings appear to justify implementation of this recommendation. However, since this is a P3 project, the proposer will need to weigh the risks and potential offsetting costs of assuming operations and maintenance of the existing bridge, which will be impacted by this alternative, against the original cost without those risks.

VE Recommendation B-3: ***Increase the span lengths for Bridge No. 13 and use spliced precast, prestressed concrete girders to reduce the number of intermediate bents.***

Response: Implement

Total estimated savings of this alternative is approximately 5% of the original cost. There will be risk exposure with this type of construction and the proposer will need to verify if the total savings will outweigh the risk.

VE Recommendation B-5: ***Straighten the manage lanes alignment at South Marietta Parkway and place them at grade to go under the South Marietta Parkway Bridge. Use braided bridges for the ramps to go over the managed lanes.***

Response: Implement

Cost savings and conventional construction techniques appear to justify this alternative. As with Alt. No. B-2, however, P3 proposers should consider the risk and cost of maintaining and operating the South Marietta Parkway Bridge while constructing ML underneath.

VE Recommendation B-6: ***Run the managed lanes under the Windy Ridge Parkway Bridge and delete Bridge No. 4.***

Response: Implement

An estimated cost savings of nearly 60% of the original design was generated primarily through profile adjustments, costs of which are fairly straightforward to compute except for the redesign effort. There will be similar risk exposure as with B-2 and B-5, but the total savings should far outweigh the risk.

VE Recommendation B-13: ***Eliminate Bridge No. 16 north of Rottenwood Creek on I-75 by mitigating the wetland area and extending box culverts.***

Response: Do Not Implement

The environmental document, including the special studies and impacts, is underway. Due to the potential impacts and delays to the environmental document and subsequently the project procurement and financial close, it is recommended not to implement this recommendation.

VE Recommendation B-15: ***Use mechanically stabilized embankment abutments in lieu of end spans at the Hickory Grove Road bridges over I-75.***

Response: Do Not Implement

The area that would otherwise be underneath the end span will more readily accommodate future widening of I-75 to that side.

VE Recommendation B-17: ***Use a larger radius for Bridge No. 7 over I-285 and shorten the bridge by cutting across the interchange further north.***

Response: Implement (Study)

Revised, longer radius alignment is better from an operational standpoint, and shorter overall length of bridge justifies consideration of this alternative by P3 proposers. However, if non-conventional construction is required to construct longer, skewed spans across I-285 and I-285 WB Ramp, the original design may turn out to be more cost effective.

VE Recommendation B-18: ***Shorten Bridge No. 2B over I-285 by moving the curved bridge alignment north.***

Response: Implement (Study)

Estimated cost savings is marginal. However, based on the generally congested nature of the alignment footprint, some tweaking of the original design alignment may be justified by the P3 proposer.

VE Recommendation W-1: ***At Big Shanty Road and I-75, move the entry and exit ramps to the reversible lane to the center of the median and delete the retaining wall.***

Response: Implement

VE Recommendation W-2: ***Adjust the reversible lanes profile between South Marietta Parkway and Banberry Road to reduce the extent of the retaining walls.***

Response: Implement

VE Recommendation W-3: ***Adjust the reversible lanes profiles between Sta. 406+00 and Sta. 419+00 to reduce the extent of the retaining walls.***

Response: Implement

VE Recommendation 575-1: ***Move slip ramp (hot lane) at Hawkins Store Road to the north and off of the bridge over Hawkins Store Road.***

Response: Do Not Implement

The environmental document is currently underway. The locations and types of access points (slip ramps or interchanges) that will be provided have not yet been finalized. These access locations, including traffic impacts, are included and will be studied as part of the SDEIS and FEIS process.

***VE Recommendation 575-2:* End the project on I-575 just south of the Little River Bridge by shifting the slip ramp to the south.**

Response: Do Not Implement

The environmental document is currently underway. The locations and types of access points (slip ramps or interchanges) that will be provided have not yet been finalized. These access locations, including traffic impacts, are included and will be studied as part of the SDEIS and FEIS process.

***VE Recommendation P-1:* On the two-lane managed lanes section of I-75 use 11-ft. wide lanes adjacent to the 10-ft. wide shoulders.**

Response: Do Not Implement

The project is anticipated to be a P3 which will involve priced managed lanes, essentially a premium facility. Retaining the currently proposed 12 ft lanes would enhance driver comfort, incident management and theoretical facility capacity. Since revenue generation is critical in a P3 project, additional capacity, incident management and comfort would result in additional patronage. Similarly, 12 ft lanes would be more likely to minimize cross-lane reads with the electronic toll collection systems. Likewise, retaining 12 ft lanes would allow for lane width continuity within the facility and at the interfaces with existing facilities.

***VE Recommendation P-3:* Underneath the concrete pavement, use 3 in. of soil-cement base in lieu of asphaltic concrete base the length of the project.**

Response: Do Not Implement

The project is a P3 project and will include performance specifications. Lifecycle costs will be an important consideration in the overall project and long term operations and maintenance of the facility, as the concessionaire will be responsible for the operations and maintenance of the facility over a 50-year period. As such, the pavement design could vary depending on the selected team's proposal resulting from the performance specs and lifecycle considerations.

***VE Recommendation P-4:* Underneath the concrete pavement, delete the 3-in. thick asphaltic concrete base throughout the project.**

Response: Do Not Implement

The project is a P3 project and will include performance specifications. Lifecycle costs will be an important consideration in the overall project and long term operations and maintenance of the facility, as the concessionaire will be responsible for the operations and maintenance of the facility over a 50-year period. As such, the pavement design could vary depending on the selected team's proposal resulting from the performance specs and lifecycle considerations.

***VE Recommendation G-2:* Where possible provide a 4-ft. wide shoulder and a 12-ft. wide shoulder in lieu of two, 10-ft. wide shoulders.**

Response: Do Not Implement

The standard shoulders on this project are 2' and 10'. Shoulder widths were increased in some areas due to sight distance.

VE Recommendation G-3: ***From the merge point of Ramp C and the two managed lanes on Bridge No. 2A to where the Ramp H merges in, provide a three-lane section that reduces to two lanes.***

Response: Do Not Implement

Implementing this recommendation would result in an increase in the project cost. Implementing the change could increase the operational complexity by introducing more complex weaving.

VE Recommendation G-4: ***Cross the managed lanes from the west side of I-75 to the east side of I-75 beginning south of North Marietta Parkway.***

Response: Do Not Implement

Based on public input to date, it is recommended the east side of I-75 be preserved for future expansion or transit. The cost of realigning the bridge due to this potential future project would not offset the cost that would be saved. The environmental document, including the special studies and impacts, is underway. Due to the potential impacts and delays to the environmental document and the sentiment of public opinion that has been gathered, it is recommended not to implement.

VE Recommendation G-5: ***Cross managed lanes to east side of I-75 beginning south of North Marietta Parkway and add access lanes at Bells Ferry Road.***

Response: Do Not Implement

Based on public and political response, it is recommended the east side of I-75 be preserved for future expansion or transit. The environmental document, including the special studies and impacts, is underway. Due to the potential impacts and delays to the environmental document, it is recommended not to implement this recommendation.

VE Recommendation G-6: ***From the merge point of Ramp C and the two managed lanes on Bridge No. 2A to where Ramp H merges in, provide a two-lane section that reduces to one lane and then expands to two lanes.***

Response: Do Not Implement

This recommendation would require additional traffic work to be completed to determine the impacts of the lane reduction and could result in project delay by impacting the overall project schedule.

If there are any questions, please contact John Hancock at 404-631-1711.

DVM:JDH

Myers, Lisa

From: Hancock, John
Sent: Wednesday, May 19, 2010 1:22 PM
To: Myers, Lisa
Cc: VanMeter, Darryl; Dover, Mike
Subject: FW: VE Study responses for I-75 and I-575 HOV Lanes Cobb Cherokee

Lisa,
Item G-6 has been reviewed by our consultants. It is recommend that this item be implemented. Darryl concurs with this recommendation.

John D. Hancock, P.E.
Office of Innovative Program Delivery
Phone: 404-631-1711 | Fax: 404-631-1947 | jhancock@dot.ga.gov

From: Laurie Reed [mailto:LLReed@HNTB.com]
Sent: Wednesday, May 19, 2010 12:55 PM
To: Hancock, John
Subject: RE: VE Study responses for I-75 and I-575 HOV Lanes Cobb Cherokee

How about this?

After further review and evaluation by the environmental team, it is recommended G-6 be implemented. Based on the traffic forecasts and review, no negative traffic impacts would result from its implementation. Any managed lane capacity deficiencies that could potentially be identified would at the Ramp H split and would not be impacted by this recommendation. The whole corridor is currently being modeled in VISSIM and this recommendation will be included in the analysis.

From: Hancock, John [mailto:jhancock@dot.ga.gov]
Sent: Friday, April 30, 2010 3:00 PM
To: Tim Heilmeier; Laurie Reed
Subject: Fw: VE Study responses for I-75 and I-575 HOV Lanes Cobb Cherokee

Any comment on FHWA G-6 comment?

John Hancock
Georgia Department of Transportation
Office of Innovative Program Delivery
404-631-1711

11/30/2009
USER: 22962

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GRACON

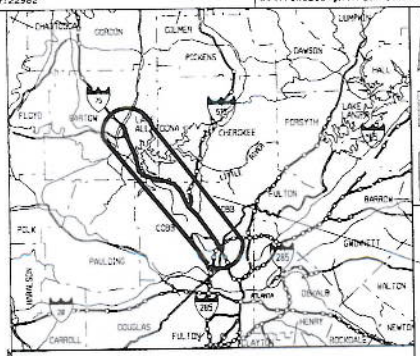
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH000-0073-03(242)		

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PLAN AND PROFILE OF PROPOSED

I-75 REVERSIBLE LANES
NH000-0073-03(242)
COBB COUNTY

FEDERAL AID PROJECT



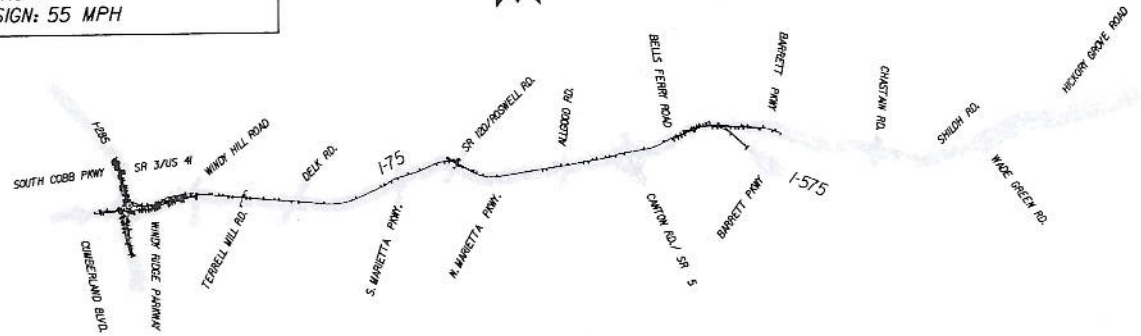
LOCATION SKETCH

FEDERAL ROUTE • I-75
STATE ROUTE • 417
P.I.NO. 714130

NOTE :
ALL REFERENCES IN THIS DOCUMENT, WHICH INCLUDES ALL PAPERS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO "STATE HIGHWAY DEPARTMENT OF GEORGIA", "STATE HIGHWAY DEPARTMENT", "GEORGIA STATE HIGHWAY DEPARTMENT", "HIGHWAY DEPARTMENT", OR "DEPARTMENT" WHEN THE CONTEXT THEREOF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.

DESIGN DATA:
TRAFFIC A.D.T.:
TRAFFIC A.D.T.:
TRAFFIC D.H.V.:
DIRECTIONAL DIST:
% TRUCKS:
24 HR. TRUCKS %:
SPEED DESIGN: 55 MPH

Note 1:
Georgia Department of Transportation (GDOT) terminated Contract Number TOURDPP160072 for its convenience prior to the completion of all work under that contract and directed that the work with respect to these drawings be discontinued.
(a) Each drawing with this Note 1 referenced was not complete and/or has not been fully verified or checked. Each such drawing is a work-in-progress and is presented only as such.
(b) Any user is cautioned that the use of any such drawing and any related information or calculations, without access to pertinent factors and without proper regard for their purpose, could lead to erroneous conclusions.
(c) If any such drawing or any information contained therein is used in future work efforts or any follow on design work activity, a complete confirmation of the information contained herein should be performed prior to any such use.
(d) GTP has no responsibility for the use of this information not under its direct control.



SET 1 OF 3

PREPARED BY: _____
DESIGN

RECOMMENDED FOR SUBMISSION BY: _____
DESIGN

SUBMITTED BY: _____
STATE DESIGN ENGINEER

DATE _____ CHIEF ENGINEER

THIS PROJECT HAS BEEN PREPARED USING THE HORIZONTAL GEORGIA COORDINATE SYSTEM OF 1994 (NAD 1983)/94 WEST ZONE, AND THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

PBS&J

GTP GEORGIA TRANSPORTATION PARTNERS

SCALE IN FEET
0 5000 10000 20000

LENGTH OF PROJECT	COUNTY No. 067/057 Project No.
	MILES
NET LENGTH OF ROADWAY	
NET LENGTH OF BRIDGES	
NET LENGTH OF PROJECT	
NET LENGTH OF EXCEPTIONS	
GROSS LENGTH OF PROJECT	

LOCATION & DESIGN APPROVAL DATE:

FUNCTIONAL CLASS:
INTERSTATE PRINCIPAL ARTERIAL

THIS PROJECT IS 100% IN COBB COUNTY AND IS:
% IN CONG. DIST. NO. 11 ,
% IN CONG. DIST. NO. 6

PROJECT DESIGNATION: EXEMPT

DESIGNED IN ENGLISH UNITS.

PLANS COMPLETED

REVISIONS:

REV		
C	11/30/09	PLOTTED PER GDOT'S TERMINATION FOR CONVENIENCE DIRECTION

DRAWING NO. 1-01

THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANY WAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE DEPARTMENT OF TRANSPORTATION IN ANY WAY. THE ATTENTION OF BIDDER IS SPECIFICALLY DIRECTED TO SUBSECTIONS 102.04, 102.05, AND 104.03 OF THE SPECIFICATIONS.